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News and Information for Pick™ Operating System Users

Issue Number 23

February 1986



Release 3.0

*A New
Release of
GA's
Operating
System*



Release 3.2

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GA About To Release 3.2

As we mentioned in our December issue, a number of Pick licensees had promised to provide us with details about their forthcoming software releases. The first complete report we received was from General Automation, which is about to release its new 3.2 version of the Pick operating system.

While many of the "new" features in 3.2 have been available on other Pick implementations for some time, the release is certainly a major improvement over the previous 3.0B release. Every Zebra user will want to seriously consider upgrading to the new 3.2 software, since it contains a number of interesting features, including:

IF-THEN-ELSE in A-correlatives.

Dictionary items no longer need to rely on complicated and obscure programming tricks to perform logical tests, but can now use simple IF constructs instead. For example, the expression $((1="X") * (4*"10")) + ((1\#"X") * (5*"20"))$, which returns the value of either attribute 4 times 10 or attribute 5 times 20, depending on if attribute 1 is an X, can now be replaced with the cleaner expression **IF 1="X" THEN 4*"10" ELSE 5*"20"**.

& (AND) and ! (OR) operators.

Boolean tests in correlatives can now be expressed as logical operations, instead of as arithmetic. For example, testing that two attributes are both certain values can be written as $(1="X") \& (2="Y")$ instead of $(1="X") * (2="Y")$.

Running counts in SELECT, SSELECT, COUNT. A command like **SELECT ZIP (C)** will now display the number of items selected every 500 items, so the progress of a select can be detected without having to wait for the command to completely finish. A numeric argument is also allowed, so **SELECT ZIP (C10)** will display the count every 10 items.

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S option for SELECTs. The S option now suppresses the NOT ON FILE message.

PROGRAM statement. BASIC programs can now be identified by name from within their own code.

BREAK statement. BREAK ON or OFF can now be written BREAK KEY ON or BREAK KEY OFF, thereby matching some other Pick implementations.

Continued lines. Long BASIC statements ending with a comma can now be continued on subsequent lines.

Alphanumeric labels. To allow completely symbolic BASIC programs, users no longer have to rely on special label preprocessors, like the one described in *Pragma #7*. Numeric labels can now be replaced by alphanumeric labels followed by a colon. For example, 10 GOSUB 20 ; IF X=5 THEN GOTO 10 can now be written as GETSYM: GOSUB GETCHAR ; IF X=5 THEN GOTO GETSYM.

Multiple patterns. Value marks can now be used for matching multiple patterns and to avoid long OR expressions in BASIC. For example, IF X MATCHES "1A2N" OR X MATCHES "2N1A" can be replaced by IF X MATCHES "1A2N"]"2N1A".

Optional cataloging. CALLED subroutines no longer have to be cataloged if they're in the same file as the calling program. That's a handy way to prevent subroutines from being invoked from the TCL like other cataloged programs.

MATPARSE and MATBUILD. The new MATPARSE statement in BASIC breaks a dynamic array into substrings and assigns them to elements of a dimensioned array, kind of like a MATREAD from memory. MATBUILD provides the reverse operation, creating a dynamic array from the elements of a dimensioned array. Both statements also allow any character to be specified as a substring delimiter. For example, MATPARSE WORDS FROM SENTENCE USING " " will break the string SENTENCE into individual

words and store each word in elements of the dimensioned WORDS array.

\$CHAIN directive. Extremely large BASIC programs can now be broken up into smaller items that end with a \$CHAIN statement and are thereby chained together for compilation. Final object code size is still limited to 32K.

\$INCLUDE directive. A BASIC compilation can now include the source code from another item by using an \$INCLUDE statement. \$INCLUDEs can be nested up to 25 levels deep. This is particularly useful for creating one master source file of equates for symbolic attribute offsets that can be referenced by any program, especially if the compiler is smart enough not to generate any object code for unreferenced equates.

LOCKED clause. READU, READVU, and MATREADU statements in BASIC can now include a LOCKED clause to specify what action to take if a group is already locked, instead of simply hanging. This is perhaps the most important new feature in the 3.2 release, since interactive item locking that provides warnings for the operator about unavailable items can now be coded with a minimum of effort.

LOCATE statement. The syntax of the LOCATE statement in BASIC programs has been expanded to allow compatibility with other systems. For example, statements like LOCATE X IN Y<3>,5 BY "DL" SETTING POS ELSE POS=1 is now allowed.

Maximum INPUT widths. INPUT statements in BASIC programs can now include an underscore to prevent any typing beyond the specified field width.

INPUTCLEAR statement. A new INPUTCLEAR statement in BASIC programs now clears the type-ahead buffer. That allows programs to ignore any buffered keystrokes as soon as an error is detected, and new operator input in response to the error can then be accepted. A new PRINTERR statement is also available, working the same as INPUTERR, but clearing the type-ahead

buffer.

Multiple PRINT formats. PRINT statements in BASIC programs can now specify multiple format strings. For example, PRINT X "L.5" "R*3" "L#5" can be used instead of PRINT ((X "L.5") "R*3") "L#5".

More SYSTEM functions. BASIC programs can now use SYSTEM(18) to return the current port number, SYSTEM(19) for the account name, and SYSTEM(20) for the privilege level.

INSert and DElete. INS and DEL statements have been added in BASIC to allow dynamic array inserts and deletes using syntax that avoids assignment statements and is compatible with other implementations.

TRIM function. Arguments have been added to the TRIM function in BASIC so that it can now trim leading, trailing, all, or redundant occurrences of any character.

MINIMUM, MAXIMUM, and SUMMATION functions. Functions are now available in BASIC programs for finding the minimum or maximum value or the sum of all elements in a dynamic array.

Editor X option. Using the X option in an EDIT command now causes characters to be displayed in hexadecimal.

Editor commands. The new AL command in the editor allows a string to be appended to the end of a line, the BL command breaks a line into two lines, JL joins the current line to the preceding line, HA causes edited lines to display in ASCII, and the HX command causes edited lines to display in hexadecimal.

Locate case. When a U is now included in the L command, the editor will locate strings that match the target string in either upper or lower case.

Exit and delete prompts. The editor's FD prompt will now ask "Are you sure?", as will the EX command if the item has changed. The prompt is bypassed in prestored commands, in proc, and with the new EXY and FDY command.

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Editor privileges. SYS0 users can no longer use ME, FI, FS or FD commands in dictionary level files, which is particularly useful for system security and preventing arbitrary modification of file pointers.

PROTOCOL verb and function. A new PROTOCOL verb and BASIC function now allows a port to sense or change various communication parameters, including baud rate, parity, data and stop bits, type-ahead, flow control and handshaking, bell character and enable, and auto logoff.

Daily message. A unique message for any date can now be saved for automatic display at logon. The message can also be the same for every date, and appears before and in addition to the LOGON message from the ERRMSG file.

Break disable. If attribute 9 of account items in the SYSTEM file contains a B, the break key is now disabled while logging to an account with a logon proc, thereby preventing another possible security failure if a user happens to use the BREAK key before the logon proc gets control and disables the key.

Logon programs. A cataloged program with the same name as an account will now execute at logon, just as a logon proc does. This is a minor convenience that avoids having to call a program from a proc just to get it to execute at logon.

COMPARE options. The COMPARE verb now also allows skipping lines that start with an asterisk, and allows comparing assembly source lines and comments, comparing disk to tape, and allows the output of a bell after each item.

Other changes. A number of other miscellaneous changes and enhancements have been made to Accu-Plot, to local area network verbs and procs, the TCL stacker, tape input, and utility programs and procs such as FILE-SAVE and LISTACC.

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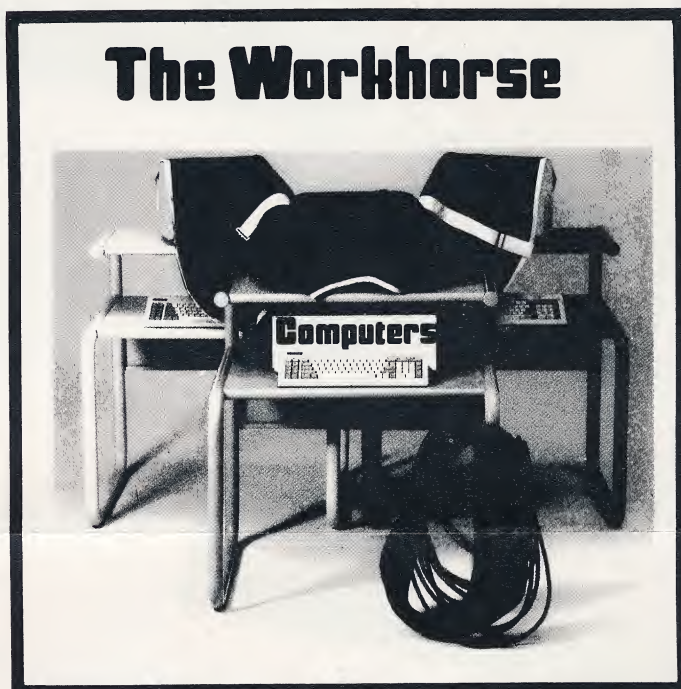


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